TITLE: EVALUATION OF THE RESISTANCE PROFILE OF *Morganella morganii* TO SEVERAL CLASSES OF ANTIMICROBIALS USED IN THE TREATMENT OF HUMAN INFECTIONS

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ABSTRACT:

Morganella morganii is the only bacterial species of the genus *Morganella*, belonging to the family Enterobacteriacea. This species is considered an opportunistic pathogen related to postoperative infections and urinary tract infections (UTIs). Although few, some studies report some antimicrobial resistant strains frequently used in the treatment of infections in humans, which makes it difficult to treat these infections due to the limited choice of antimicrobials. Thus, the present study aimed to evaluate the resistance profile of 48 *M. morganii* isolated from patients hospitalized at the University Hospital of Londrina from July 2015 to November 2018, according to the Clinical and Laboratory Standards Institute - CLSI. In this study 12 antimicrobials belonging to the classes of Aminoglycosides, Cephalosporins, Carbapenems, Quinolones and Sulfonamide were used. The isolates were identified using the VITEK® 2 system. Their resistance profile was evaluated by the disk-diffusion technique. It was observed that 5 (10.41%) of the isolates were resistant to amicacin, gentamicin 32 (66.66%), aztreonan 23 (47.91%), ceftazidime 22 (45.83%), cefepime 31 (64.58%), ertapenem 0 (0%), Imipenem 0 (0%), meropenem 0 (0%), piperacillin/tazobactam 3 (6.25%), ciprofloxacin 32 (66.66%), norfloxacin 33 (68.75%), sulfamethoxazole/trimethoprim 39 (81.25%) and ampicillin/sulbactam 39 (81.25%). It was evidenced in this study that the majority of the isolates presented resistance to the antimicrobials ampicillin/sulbactam, sulfamethoxazole/trimethoprim, gentamicin, cefepime, ciprofloxacin and norfloxacin. The isolates presented more susceptible to ertapenem, imipenem, meropenem and piperacillin/tazobactam antimicrobial agents. Of the 48 isolates, 31 (64.58%) were multiresistant, as they showed resistance to three classes or more of antimicrobials, evidencing a high prevalence of multiresistant *M. morganii* in patients hospitalized in a Hospital in the South of Brazil. It is concluded that the isolates from this study are more sensitive to antimicrobials of the class of carbapenems, making their use more appropriate for infections caused by this pathogen. However, it is of the utmost importance that these antimicrobials be used in a rational way, avoiding the selection of strains resistant to these antimicrobials.

Keywords: pathogenicity, public health, bacterial resistance, hospital infections

Development Agency: CAPES